

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization

International Bureau

(43) International Publication Date  
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number  
WO 2005/084691 A1(51) International Patent Classification<sup>7</sup>: A61K 35/12,  
C12N 5/02, 5/10, 15/86(21) International Application Number:  
PCT/CA2005/000345

(22) International Filing Date: 4 March 2005 (04.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/549,870 4 March 2004 (04.03.2004) US

(71) Applicants and

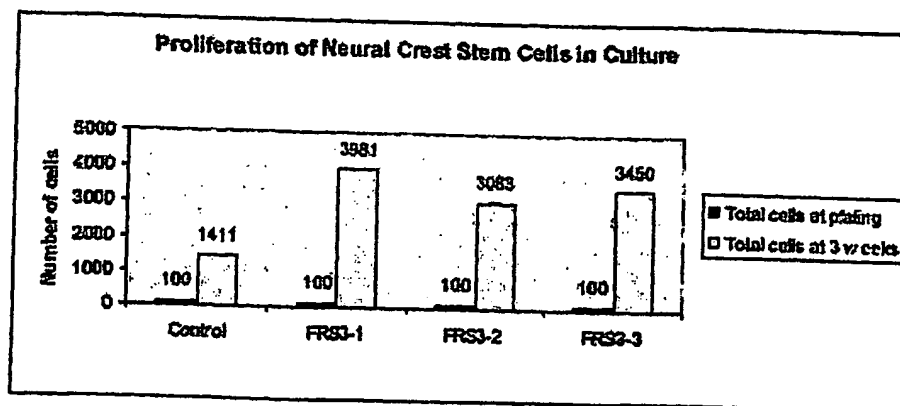
(72) Inventors: MEAKIN, Susan, Oriole [CA/CA]; 127  
Carriage Hill Drive, London, Ontario N5X 3W9 (CA).  
VOLKENING, Kathryn, Elizabeth [CA/CA]; 261  
Wildgoose Road, London, Ontario N5W 6E2 (CA).(74) Agent: FAGGETTER, Ronald; SMART & BIGGAR,  
438 University Avenue, Suite 1500, Box 111, Toronto, On-  
tario M5G 2K8 (CA).(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW.(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF PROLIFERATING PRECURSOR CELLS

(57) Abstract: There is provided a method of proliferating precursor cells by modulating the expression of the protein FRS3 within the precursor cells. The method is useful for the production of large populations of precursor cells, which are useful for *in vitro* research techniques, including drug screening, and for *in vivo* therapeutic uses.